

What is claimed is:

1. A method of communicating information concerning an attribute of a data source unit, comprising:

generating a watermark based on said attribute of the data source unit;

combining the watermark with a data stream from the data source unit, thereby

5 generating a data transmission unit; and

transmitting the data transmission unit to a destination unit.

2. The method of claim 1, wherein the attribute of the data source unit corresponds to a capability of the data source unit.

3. The method of claim 2, wherein the attribute of the data source unit comprises one of a type of voice operated recorder (vocoder), a source unit revision indicator, and a source unit identifier.

4. The method of claim 1, wherein the watermark is generated based on a plurality of attributes of the data source unit.

5. The method of claim 4, wherein the attributes of the data source unit correspond to capabilities of the data source unit.

6. The method of claim 5, wherein the attributes of the data source unit comprise at least one of a type of voice operated recorder (vocoder), source unit revision indicator, and a source unit identifier.

7. The method of claim 1, further comprising compressing the data stream according to a source compression algorithm, wherein the attribute upon which the watermark is generated identifies the source compression algorithm.

8. The method of claim 1, further comprising:

compressing the data stream to generate a compressed data stream;

detecting a capability of the source unit;

generating a signature based on the detected capability of the source unit; and

5 applying the signature as the watermark to the compressed data stream to generate the data transmission unit.

9. The method of claim 8, wherein the detected capability of the data source unit comprises at least one of a type of voice operated recorder (vocoder), source unit revision indicator, and a source unit identifier.

10. The method of claim 8, wherein the data stream includes multimedia data encoded in a plurality of fields including non-critical fields and critical fields, and wherein said applying the signature comprises masking the non-critical fields of the data stream; applying the signature to the masked fields of the data stream; and outputting a signed data stream having the non-critical fields of the data stream containing the signature and the critical fields of the data stream containing the multimedia data.

11. The method of claim 1, wherein the data stream includes header information and multimedia content information, and wherein the watermark is contained in the multimedia content information.

12. The method of claim 1, wherein the watermark is a digital watermark.

13. A method of determining capabilities of a data source unit, comprising:
receiving a data transmission unit containing a data stream having a watermark, the watermark containing information concerning an attribute of a data source unit; and
determining, based on the watermark, said attribute of the data source unit.

14. The method of claim 13, wherein the attribute of the data source unit corresponds to a capability of the data source unit.

15 The method of claim 13, wherein the data stream includes header information and multimedia content information, and wherein the watermark is contained in the multimedia content information.

16. The method of claim 13, wherein the watermark corresponds to a plurality of attributes of the data source unit.

17. The method of claim 13, wherein the watermark is a digital watermark.

18. The method of claim 13, wherein the transmission data unit is received at a destination unit, and the method further comprises extracting a signature from the watermark, determining a source unit attribute from the extracted signature, determining a destination unit attribute corresponding to the data source unit attribute, and comparing the source unit attribute with the destination unit attribute.

19. The method of claim 18, further comprising determining a capability common to both the source and destination units based on the compared attributes.

20. The method of claim 19, further comprising negotiating a parameter for use in communicating between the data source unit and the destination unit based on the determined common capability.

21. The method of claim 19, further comprising recovering from the received transmission data unit a multimedia data stream, based on the negotiated parameter.

22. A data source apparatus, comprising:
a data stream processor configured to output a data stream;
a signature generator configured to generate a signature containing information concerning at least one attribute of the data source apparatus; and
a combiner configured to receive data stream and signature, to embed the signature as a watermark within the data stream, and to output a watermarked data unit.

23. The data source apparatus of claim 22, wherein said at least one attribute of the data source unit corresponds to at least one capability of the data source unit.

24. The data source apparatus of claim 23, wherein said at least one attribute of the data source unit comprises at least one of a type of voice operated recorder (vocoder), source unit revision indicator, and a source unit identifier.

25. The method of claim 23, further comprising compressing the data stream according to a source compression algorithm, wherein said at least one attribute identifies the source compression algorithm.

26. The data source apparatus of claim 22, further comprising a transport unit configured to add communication protocol information to the watermarked data unit and to output a data transmission unit.

27. The data source apparatus of claim 22, wherein the combiner unit comprises a circuit for logically combining the signature with the data stream.

28. A data source apparatus suitable for communication with a destination unit, comprising:

means for generating a data stream;

means for generating a watermark based on a plurality of capabilities of the data

source apparatus;

means for combining the watermark with the data stream, thereby generating a data transmission unit; and

means for transmitting the data transmission unit to a destination unit.

29. A destination apparatus, comprising:

a reception unit configured to receive a data transmission unit having multimedia data containing an embedded watermark, wherein the watermark contains information concerning at least one capability of a source data unit outputting the multimedia data;

a watermark detector configured to detect the watermark embedded in the multimedia data; and

a capabilities unit configured to extract source data unit capability information from the watermark and to control operation of the destination apparatus according to the extracted capability information.

30. The destination apparatus of claim 29, further comprising a capabilities negotiation processor configured to negotiate with the source data unit communications parameters based on the capability information extracted from the watermark.

31. The destination apparatus of claim 29, wherein the watermark contains information concerning a plurality of capabilities of the data source unit.

32. The destination apparatus of claim 29, wherein the multimedia data contained in the data transmission unit is compressed according to a compression algorithm employed in the data source unit, and wherein the source data unit capability information extracted from the watermark includes information identifying said compression algorithm, the apparatus further comprising a multimedia data decompression unit configured based on said information identifying said compression algorithm to decompress the multimedia data.

33. The destination apparatus of claim 29, wherein the watermark detector comprises an extraction mask unit configured to logically combine the multimedia data containing the watermark with a data extraction mask and a signature extraction mask, and to output a multimedia data frame having the watermark extracted and a signature signal containing the source data unit capability information.

34. An destination apparatus for communicating with a data source unit, comprising:

means for receiving a data transmission unit containing a data stream having a watermark, the watermark containing information concerning a plurality of capabilities of a data source unit; and

means for determining, based on the watermark, said plurality of capabilities of the data source unit.